

### **AMENDMENTS TO THE DRAWINGS**

The attached "Replacement Sheet" of drawings includes changes to Figure 8.  
The attached "Replacement Sheet," which includes Figure 8, replaces the original sheet including Figure 8.

Attachment: Replacement Sheets

### **REMARKS**

Claims 10-17 and 23-26 are now pending in the application. By this writing, Applicant amends Claims 23 and 26. No new matter is added. Applicant believes that the foregoing amendments and the remarks contained herein place the application in condition for allowance. Therefore, the Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **DRAWINGS**

The drawings stand objected to for certain informalities. Applicant has attached revised drawings for the Examiner's approval. In the "Replacement Sheet(s)", Figure 8 replaces the original sheet including Figure 8. Reference character 806 has been removed from Figure 8. Applicant submits that the drawings comply with 37 CFR 1.84(p)(5) and requests that the Examiner withdraw the instant objection.

### **REJECTION UNDER 35 U.S.C. § 102**

Claims 23-25 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Tate Jr. et al (U.S. Pat. No. 2005/0057255). This rejection is respectfully traversed.

While Applicant acknowledges that Tate Jr. et al. disclose an estimation method employing a Kalman filter, they fail to teach or suggest the recited invention of Claim 23. More specifically, Applicant submits that Tate Jr. et al. do not disclose operating a control element to provide a feed stream to a fuel cell at a condition and regulating the flow control element in response to a smooth state signal. Applicant has amended Claims 23 and 25 to more particularly point out and distinctly claim the control element as a flow control element.

In contrast, Applicant submits that Tate Jr. et al. disclose a method of estimating a state of charge (SOC) and a state of health (SOH) of power cell (12), consisting of an array of electrochemical cells, which can be electrically recharged by a generator (16). Sensors (20) measure a variety of voltages and a controller (18) processes the measurements through a Kalman filter to estimate the SOC of the cells. The controller (18) signals the generator (16) to operate based on the estimates. In their discussion of fuel cell applications, Tate Jr. et al. describes a simple impedance estimation to learn the resistance and voltage dynamics. Thus, the teachings of Take Jr. et al. are directed to measuring the output for a power cell and making estimates about its SOC and SOH. Tate Jr. et al. is silent, however, with respect to measuring other process input parameters such as a feed stream flow rate, operating a flow control element to provide a feed stream and regulating the flow control element in response to a smooth state signal as recited in Claims 23-25.

Therefore, Applicant submits that amended Claim 23 is in condition for allowance. Applicant also submits that Claims 24 and 25, which depend from Claim 23, are also in condition for allowance. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the instant rejection.

#### **REJECTION UNDER 35 U.S.C. § 103**

Claims 10-17 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tate Jr. (U.S. Pat. No. 2005/0057255) in view of Bharadwaj (U.S. Pat. No. 2002/0161550). Claims 10-17 and 26 stand rejected under 35 U.S.C. § 103(a)

as being unpatentable over Tate Jr. (U.S. Pat. No. 2005/0057255) in view of European publication EP 0516534. These rejections are respectfully traversed.

The Tate Jr. et al. reference is used in each of the above rejections. As indicated by the Examiner, the Tate Jr. et al. reference qualifies as prior art under 35 U.S.C. § 102(e). (See Detailed Action at 3). Applicant includes herewith a Statement of Common Ownership for the Tate Jr. et al. reference. Therefore, it is believed that the Tate Jr. et al. reference is not available as a prior art reference under MPEP § 706.02(l)(2). Accordingly, withdrawal of the instant rejections is respectfully requested.

#### **STATEMENT OF COMMON OWNERSHIP**

The present application, U.S. Patent Application Serial No. 10/772,604, and Tate Jr. et al., U.S. Publication No. 2005/0057255 A1, commonly owned by General Motors Corporation were, at the time the invention of U.S. Patent Application Serial No. 10/772,604 was made.

#### **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner

believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

/ David A. McClaughry /

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By: \_\_\_\_\_  
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